REMARKS

Claims 1-26 are pending and under consideration. Claims 1-26 were rejected in the Office Action mailed October 17, 2006. In this Response, no claims are amended, added, or canceled.

I.   Obviousness Rejections under 35 U.S.C. §103(a)

Claims 1-2, 7-8, 12-13, 18-20, and 23-25 are rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over *Calder et al.* (U.S. Patent No. 5,963,972, hereinafter "*Calder*") in view of *Lomet* (U.S. Patent No. 5,963,972), and further in view of *Serra et al.* (U.S. Patent No. 6,226,787, hereinafter "*Serra*"). Applicants respectfully traverse the rejection, and respectfully submit that he combination of *Calder, Lomet* and *Serra* fails to teach or suggest all of the limitations of independent claims 1, 8, 12, 19, 20, 23, and 24.

Applicants respectfully submit that there is no motivation to combine *Calder*, *Lomet,* and *Serra* as suggested by the Examiner. The Examiner asserts that the modification would be obvious because one of ordinary skill in the art would be motivated to minimize cache misses by ensuring the proper order of computer operations. However, this does not explain what benefit *Serra* provides in this hypothetical combination. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). Because *Calder* is directed to a code reordering algorithm for optimizing a cache and does not require human input or intervention, there is no reason for displaying *Calder*'s graph to a user. Thus, modifying *Calder* with *Serra* offers no benefit, and therefore the desirability of the combination is not established.

For at least these reasons, *prima facie* obviousness has not been established, and claim 1 is patentable over the combination of *Calder, Lomet,* and *Serra.* Claims 8, 12, 20, 23, and 24 also recite similar limitations, and are therefore patentable for at least the same reasons.

Regarding claim 2, the combination of *Calder, Lomet,* and *Serra* fails to teach or suggest a graph comprising nodes assigned to the blocks and dependency arcs representing the determined dependencies. Unlike Applicants' claimed invention in which graph nodes are assigned to blocks of memory, *Calder's* graph nodes merely correspond to units of instructions -- the units of instructions do not correspond to blocks of memory. In response, the Examiner asserts that "a block is a group of instructions in a program that are treated as a unit. Therefore, the unit is store in one block of memory." The Examiner's assertion is incorrect. A block, in claim 1, is assigned both a portion of data and at least one code segment. Thus, *Calder's* assignment of nodes to units of instruction cannot be construed as an assignment of nodes to blocks of memory. Further, it is irrelevant that the unit of code instruction in *Calder* is stored in one block of memory, as alleged by the Examiner, because it is still the instruction that is assigned the node, not the block of memory. Accordingly, *Calder's* graph nodes do not correspond to blocks of memory and thus cannot teach or suggest this limitation.

For at least these reasons, *prima facie* obviousness has not been established, and claim 2 is patentable over the combination of *Calder, Lomet,* and *Serra.* Claim 9 recites similar limitations and is therefore patentable for at least the same reasons.

Regarding claim 19, the combination of *Calder, Lomet,* and *Serra* does not teach or suggest the generation and display of a graph depicting dependencies among memory regions, as previously discussed. Furthermore, the combination fails to teach or suggest "while the code segments are executing, determining which nodes in the graph are unexecuted nodes and which

nodes in the graph are executed nodes; and displaying the unexecuted nodes in a manner visually distinctive from the executed nodes." As previously discussed with regard to claim 6, *Razdow* does not visually distinguish between executed and unexecuted nodes. Accordingly, *prima facie* obviousness has not been established, and claim 19 is patentable over *Calder, Lomet,* and *Serra*.

Claims 3-4, 6, 9-11, 14-15, 17, and 21-22 are rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over *Calder* in view of *Lomet* and *Serra*, and further in view of *Ju (U.S. Patent No. 6,175,957)*. Applicants respectfully traverse the rejection.

Claims 1, 12, and 24 are allowable as discussed above. *Ju* still fails to disclose or suggest Applicants' claimed data read and data write identifiers and fails to disclose or suggest determining dependencies based on the data read and data write identifiers. Therefore, *Calder* in view of *Lomet, Serra* and *Ju* still fails to disclose or suggest claims 1, 12, and 24.

Claims 3-4, 6, 9-11, 14-15, 17, and 21-22 depend directly or indirectly from claims 1, 12, or 24 and are therefore allowable for at least the same reasons that claims 1, 12, and 24 are allowable.

Claims 5, 16, and 26 are rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over *Calder* in view of *Lomet* and *Serra*, and further in view of *Cai (U.S. Patent No. 6,349,363)*. Applicants respectfully traverse the rejection.

Claims 1, 12, and 24 are allowable as discussed above. *Cai* still fails to disclose or suggest Applicants' claimed data read and data write identifiers and fails to disclose or suggest determining dependencies based on the data read and data write identifiers. Therefore, *Calder* in view of *Lomet, Serra* and *Cai* still fails to disclose or suggest claims 1, 12, and 24.
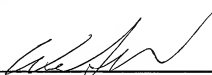
Claims 5, 16, and 26 depend directly or indirectly from claims 1, 12, or 24 and are therefore allowable for at least the same reasons that claims 1, 12, and 24 are allowable.

CONCLUSION

In view of the foregoing, it is submitted that claims 1-26 are patentable. It is therefore submitted that the application is in condition for allowance. Notice to that effect is respectfully requested.

Respectfully submitted,

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